I HEREBY CERTIFY THAT THIS CORRESPONDENCE IS BEING DEPOSITED WITH THE UNITED STATES POSTAL SERVICE AS FIRST CLASS MAIL IN AN ENVELOPE ADDRESSED TO: ASSISTANT COMMISSIONER FOR PATENTS, WASHINGTON, D.C. 20231, ON THE DATE INDICATED BELOW.

BY: Ramona March DATE: Jan. 2, 2001

DOCKET NO.: D2251-00031

PATENT

#32/I NE & 1/17

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Yock, et al.

Group Art Unit: 3737
Examiner: F. Jaworski

Serial No.: 08/904,438

Filed: 7/31/97

For: APPARATUS FOR USE IN CANNULATION OF BLOOD VESSELS

AMENDMENT

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

Do not enter

In response to the Official Action dated July 31, 2000, the period for response to which has been extended up to and including January 2, 2001, by the petition for extension of time and fee therefor submitted herewith, please enter the following amendment and consider the following remarks.

In the specification:

Replace the paragraph beginning at column 2, line 1, with the following:

FIG. 4 is a section view of a needle portion and a –stylet– [trocar] portion of the apparatus of FIG. 3.

Following column 2, line 3, insert the following new paragraphs:

--FIG. 5 is a partial cross-sectional view of a needle and an alternative stylet.

FIGS. 6 and 7 are additional alternative embodiments of stylets in accordance with the invention.--

Replace the paragraph beginning at column 2, line 28, with the following:

FIG. 2 is a plot of intensity of the Doppler signal versus depth within the tissue 18. When the needle is first inserted into the tissue but not ~~directly~~ [direct] towards an artery or vein, the response is small and relatively flat as indicated. Upon pointing the needle at an artery an increased modulated wave is detected; conversely, when the needle is pointed towards a vein an increased generally uniform signal is detected. As the needle is advanced towards the artery or vein, the intensity of the reflected wave increases, and upon penetration of the vessel a stepped increase in the intensity of the reflected signal is indicated. Actual penetration of the vessel will be indicated by the back flow of blood when the vessel is penetrated by maintaining a negative pressure in the needle and a constant back pressure on the syringe while the needle is being advanced. Once the vessel is penetrated, brisk backflow of blood in the needle indicates safe penetration of the vessel and can cause the stepped increase in reflected wave intensity thereby indicating a safe location for injection of medications or passage of a wire into the vessel.

Replace the paragraph beginning at column 3, line 14, with the following:

In the embodiment of FIG. 4 the stylet 26 has an outer diameter less than the inner diameter of needle 24 (i.e. the stylet is spaced from the needle) whereby blood flow upon penetration of a vessel is accommodated around the stylet. In ~~the~~ [this] embodiment shown in FIG. 5 the electrical conductor on the outer surface of the ~~stylet~~ [trocar] physically and electrically contacts the needle 58, and the needle then functions as one electrode in transmitting energy to the transducer 60 mounted to the trocar by the energy absorbing epoxy 62. Blood flow is accommodated in this embodiment of the invention by removing a portion of the trocar as indicated at 64.